Remarks

The Final Office Action dated November 18, 2003 has been received and considered by the Applicant. Claims 1-5 are currently pending in the present application for invention. Claims 1-5 stand rejected by the Final Office Action dated November 18, 2003.

The Examiner objects to the drawings for lack of descriptive labels. Per the Examiner's request, redlined drawing is submitted herewith with additional descriptive labels. The respective paragraphs within the specification that describe the additional labels have been amended by the foregoing amendment to the specification.

The Examiner objects to the specification for not including section headings. The Applicants, respectfully, decline to add the optional section headings because there is no requirement to include them.

The Final Office Action dated November 18, 2003 rejects claims 4-5 under the provisions of 35 U.S.C. §112 first-paragraph, as containing subject matter which is not described in the specification. The Applicant does not agree with this assertion contained in the Final Office Action. Claim 4 recites the sensing of forces acting the disk drive, which is described in the specification to the present invention on page 2, line 30. Claim 4 recites the converting of detected forces into disturbance signals, which is described in the specification to the present invention on page 2, line 32-34. Claim 4 recites the applying the disturbance signals to a feed forward filter to obtain a disturbance variable, which is described in the specification to the present invention on page 2, line 35 to page 3, line 2. Claim 4 recites the applying the disturbance variable to a controller, which is described in the specification to the present invention on page 2, line 35 to page 3, line 2 and also on page 3 beginning at line 18. The specification clearly describes feeding forward the disturbance variable through the DSP to the controller. Claim 4 recites the adjusting the disk drive for errors using the controller, which is described in the specification to the present invention on page 3 beginning at line 6. Claim 4 recites the receiving reference variables, error signals, and control variables at a processor, which is described in the specification to the present invention on page 3 beginning at line 6. Finally, Claim 4 recites providing of outputs from the processor to alter parameters of the feed forward filter and the controller, which is described in the specification to the present invention on page 3 beginning at line 6. Accordingly, the to rejection claims 4-5 under the provisions of 35 U.S.C. §112 first paragraph, as containing subject matter which is not described in the specification is,

respectfully, traversed.

The Final Office Action dated November 18, 2003 rejects Claims 1 and 3 under the provisions of 35 U.S.C. §102(e) as being anticipated by U. S. Patent No. 6,580,579 issued in the name of Hsin et al. (Hsin et al.). Claim 1 recites that parameters of both the controller and the feedforward filter are affected during operation of the apparatus. The Examiner asserts that these recited limitations of the rejected claims are found within Hsin et al. Applicants, respectfully, disagree with these assertions contained within the Final Office Action. The sections of Hsin et al. referenced by the Examiner in the Final Office Action do not disclose, or suggest, that parameters of both the controller and the feedforward filter are affected during operation of the apparatus. There is, simply put, no mention or suggestion for altering the parameters of the controller within Hsin et al. Accordingly, this rejection of Claim 1 is, respectfully, traversed.

Regarding Claim 3, Hsin et al. only discusses effect due to rotational vibration. There is no disclosure, or suggestion, within Hsin et al. for adjusting parameters in response to external disturbances that occur (see col. 2, lines19-21 of Hsin et al.). Accordingly, there is no motivation for providing the controller with the capability to adapt its' control parameters. Accordingly, this rejection of Claim 3 is, respectfully, traversed.

The Final Office Action dated November 18, 2003 rejects Claim 2 under the provisions of 35 U.S.C. §103(a) as being obvious over Hsin et al. in view of U. S. Patent No. 5,619,581 issued in the name of Ferguson et al. (Ferguson et al.). The Examiner points out that Ferguson et al. discloses a Digital Signal Processor. Claim 2 depends from Claim 1, which as previously discussed is believed to be allowable. The Applicant, respectfully, asserts that the cited references do not disclose the altering of the parameters for the controller. New dependent claim 5 distinguishes even more clearly over the reference by reciting both an error signal input and an input for adapted control parameters. Accordingly, this rejection of Claim 2 is, respectfully, traversed.

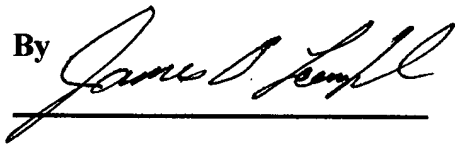
The Final Office Action dated November 18, 2003 rejects Claims 4 and 5 under the provisions of 35 U.S.C. §103(a) as being obvious over Hsin et al. in view of Ferguson et al. and further in view of U. S. Patent No. 6,018,431 issued in the name of Carlson et al. (Carlson et al.). The Applicant would like to, respectfully, point out that the Final Office Action does not include any portion from Carlson et al. within the discussion regarding this rejection. Perhaps this was an oversight. The Applicants, respectfully, assert

that rejected Claim 4 "providing outputs from the processor to alter parameters of the feed forward filter and the controller." There is no such provision within the cited references. Accordingly, this rejection is, respectfully, traversed.

Regarding Claim 5, the Examiner states that Hsin et al. teaches adaptation of control parameters. The Applicants, respectfully, disagree. As previously stated there is no disclosure, or suggestion, within Hsin et al. for the adaptation of controller parameters. The Examiner indicates that reference numeral 214, 216 within Hsin et al. disclose the adapted control parameters. Servo controller 214 and servo control signal 216 within Hsin et al. do not teach the adaptation recited by rejected Claim 5. Accordingly, this rejection is respectfully, traversed.

In view of the foregoing amendment and remarks, the Applicants believe that the present application is in condition for allowance, with such allowance being, respectfully, requested.

Respectfully submitted,

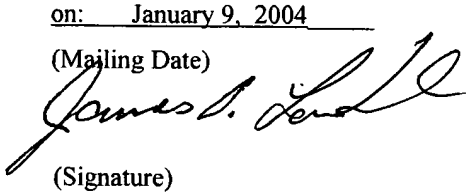
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